



THE LATEST THEORY ABOUT PLANTS

Shall we ever know what we think we know, or reach a knowledge of things which no supplementary knowledge can overthrow? Only recently, for instance, the world had settled itself down comfortably in the faith that at last all the idle beliefs and foolish superstitions pertaining to the influence of plants upon human life were dissipated, and that we had reached an altitude of absolute mastery of the interesting phenomena relating to this subject. It looked to us as if in the gratification of an aesthetic taste nature had provided indirectly for our rescue from the worst evils of unwholesome districts, and of that deterioration of the air we breathe which is inseparable from human existence under the confined conditions of indoor life. Reversing the old superstition regarding the unhealthy effects of plants in living-rooms, physicians recommended them for their disinfecting qualities, and many a bedroom and schoolroom window is now adorned with plants in pots, which were placed there with the idea that they would compensate for a defective ventilation. The fact upon which these inferences were naturally and plausibly based is, that plants purify the air in three different ways: by absorbing carbonic acid; by exhaling under the influence of sunlight an equivalent in oxygen; and by the production of ozone. That vegetation possesses these three functions has been demonstrated by the experiments of physiologists, chemists and meteorologists, and this would seem sufficient to prove all that has been claimed in regard to its hygienic value; but a German experimenter, Professor von Pettenkofer, who for several years has given special attention to the subject, has recently summed up the results of his own and other investigations, in a manner that must dissipate many of the illusions we have so fondly cherished. He admits that plants possess the functions attributed to them, but the direct sanitary effect of these three functions he is compelled to state are none whatever. It is not meant by this that absolutely no effect is produced, but hygiene, as he says, is a science of economics, "and every such science has to ask not only what exists, and whether it exists, but how much there is and whether enough." Measured by this standard, the recently-developed ideas concerning the purifying influence of vegetation are proved to be absurdly exaggerated, for numerous and long-continued experiments have shown that there is no more carbonic acid in the air of Paris or Manchester than in that of the surrounding country, or even in far-distant mountain regions, and also that "there is no greater appreciable quantity of oxygen in a wood of thick foliage than in a desert or on the open sea." This phenomenon as exhibited in the open air, is readily accounted for by the atmospheric currents and the constant change and movement of the air, which is never absolutely still, and usually moves at the rate of three metres per second. But since every green leaf absorbs carbonic acid and gives out oxygen under the influence of light, it would seem undeniable that the air of close rooms must be materially improved by plants. Even this, however, our learned professor cannot concede. "The power of twenty pots of plants would not be nearly sufficient to neutralize the carbonic acid exhaled by a single child in a given time. If children were dependent on the oxygen given off by flowers, they would soon be suffocated." The explanation in this case is to be found in the extremely slow processes of vegetable life as compared with those of the animal kingdom, and the vast extents of vegetation which are required for the sustenance of animals and man. "The grass or hay consumed by a cow in a cow-house grows upon a space of ground on which a thousand head of cattle could stand. How slow is the process of the growth of wheat before it can be eaten as bread, which a man will eat, digest and decompose in twenty-four hours! The animal and human organism consumes and decomposes food as quickly as a stove burns the wood which took so many thousand times longer to grow in the forest." No quantity of plants sufficient to affect appreciably the air of a given space can be brought together; for careful experiments made in the royal winter garden, at Munich, showed that the proportion of carbonic acid in the air of that tightly-closed space full of vegetation was almost as high as in the open air. What, then, is the hygienic value of plants and gardens and flowers? Strange to say, Professor von Pettenkofer, though a man of science, and consequently the inveterate foe of "sentimentalism," finds it in the aesthetic

pleasure which they afford. The cheerful and happy now contented man lives not only an easier but, on the average, a healthier life than the depressed and morose man; and anything that makes a pleasurable impression upon our minds and senses has a distinct hygienic value. Lovers of plants, therefore, are fully justified, from a practical point of view, in continuing their cultivation; for if they will not relieve the air of its surplus carbonic acid, nor materially increase our available supply of oxygen, they have a sanitary effect in the satisfaction and refined enjoyment which they afford. — *Appleton's Journal.*

CARBOLIC ACID IN THE POULTRY-YARD.

Carbolic acid, properly applied, is a useful drug in the poultry-yard. The offensive and unwholesome odors of the poultry quarters, arising from the exhalations and the fermentation of their droppings, may be easily and effectually removed by the use of a solution of carbolic acid.

Besides the odors, which are simply disagreeable and unwholesome, other and more dangerous gases of a miasmatic or poisonous character are often generated in quarters where large numbers of fowls are kept. These infectious miasms are the cause of destructive epidemic diseases. Carbolic acid will destroy these gases and prevent loss from the diseases they produce.

Among the most troublesome annoyance of poultry-keeping, lice must be enumerated. These parasites will master the situation unless they are looked after. Carbolic acid in solution almost instantly destroys these pests. The small "mites" or "spiders," which live during the day in cracks and crevices and about the bearings of the roosts, in the corners of nest-boxes, etc., are the most annoying to the fowls at night.

Another trouble that may be enumerated under the head of parasites is "scabby legs." This disease, if disease it be, is produced by an acarus, a minute insect, which burrows between and under the scales on the shanks and feet. When neglected for a considerable time, the scabs or incrustations grow to a disgusting size, and will be harder to remove than if undertaken as soon as discovered. This trouble is easily cured by the use of the acid.

Aside from its properties as a deodorizer, disinfectant, and insecticide, it has uses as a healing application, when used externally, in the case of ulcers, sores, wounds, &c. It thus combines curative as well as hygienic properties. For sanitary purposes it is employed in solution. As a curative agent it is used in the form of soap or ointment, or both.

Carbolic acid is found in the drug stores in different forms, varying from the pure crystallized substance and its solutions to the more crude and impure forms. The latter are the ones to use in the poultry yard. They are cheaper and perfectly efficient.

A solution for use in the poultry quarters for hygienic purposes can be made by mixing one fluid ounce of the acid with a gallon of water. Then sprinkle the inside surface thoroughly—floor, wall, roosts, nests, everything inside of the quarters—with the solution.

An excellent plan is to saturate pieces of old carpet or bags or worn-out horse-blankets with a strong solution, and hang or tack them up in the roosting-places, or inside the coops where small chickens are kept. In hot weather the solution should be used in the buildings at least once a month, and in the coops for little chickens oftener. The smell given off will neutralize odors or miasms and destroy all microscopic organisms and parasites, while it is absolutely harmless to the fowls and chickens.

The ointment is made by mixing about one fluid ounce or a large tablespoonful of the acid with a pound of melted lard and stirring until thoroughly mixed. As soon as cold enough it is ready for use. A little of this ointment smeared on the roost-poles will keep the vermin away. It will, when applied, cure the "scabby leg." A little of it rubbed under the wings and about the tail and vent of lousy chickens will drive away the lice quickly. — *A. M. Dickey, in Poultry Nation.*

CONSUMPTION A DISEASE OF INDOOR LIFE.

Among the natives of Senegambia pulmonary affections are not only nearly but absolutely unknown; yet a single year passed in the over-crowded man pens and steerage hells of the slave-trader often sufficed to develop the disease in that most virulent form known as galloping consumption; and the brutal planters of the Spanish Antilles made a rule of never buying an imported negro before they had "tested his wind," i. e. trotted him up hill and watched his respirations. If he proved to be "a roarer," as turkmen term it, they knew that the dungeon had done its work and discounted his value accordingly. "If a perfectly sound man is imprisoned for

life," says Baron d'Arblay, the Belgian philanthropist, "his lungs, as a rule, will first show symptoms of disease, and shorten his misery by a hectic decline, unless he should commit suicide."

Our home statistics show that the percentage of deaths by consumption in each state bears an exact proportion to the greater or smaller number of inhabitants who follow indoor occupations, and is highest in the factory districts of New England and the crowded cities of our central states. In Great Britain the rate increases with the latitude, and attains its maximum height in Glasgow, where, as Sir Charles Brodie remarks, windows are opened only one day for every two in Birmingham, and every three and a half in London; but going farther north the percentage suddenly sinks from twenty-three to eleven, and even to six, if we cross the fifty-seventh parallel, which marks the boundary between the manufacturing counties of Central Scotland and the pastoral regions of the north.

It is distressingly probable, then, to say the least, that the most fearful scourge of the human race, is not a "mysterious dispensation of Providence," nor a "product of an outrageous climate," but the direct consequence of an outrageous violation of the physical laws of God. — *Popular Science Monthly.*

SCIENCE IN PRACTICE.

To diffuse, however, the results of Science is matter of far greater difficulty than might be at first supposed. It is one thing to procure the intellectual assent of the readers of a magazine or of a newspaper to some scientific discovery or demonstration, and a different thing altogether to ensure that the same readers shall comprehend the discovery in practice, that they shall grasp its principle, and appreciate its bearings upon the daily realities of life. In ordinary cases, no practical knowledge is really acquired until it is brought home to the five senses—until it is seen, handled, and felt. The difficulty is not experienced merely among the uneducated. Many of the middle or even of the upper classes, who take a sincere pleasure in scientific knowledge, appear blind to its bearings on such matters as the ventilation of their houses or the education of their children, and seem indifferent to the increasing opportunities it affords them for comfort and for economy. They ride by railway, and they occasionally send messages by telegraph; but in most other respects they are content to live as their grandfathers did—to run the same risks and to commit the same blunders and extravagances. Unfortunately, moreover, the utility of many of the results of modern science depends mainly upon the intelligent and cordial co-operation of the community at large. It is of little use, for instance, building model lodging-houses and providing them with improved methods of drainage and ventilation, when all appliances are sure to be obstructed and nullified by the unintelligent recklessness of those who use them. There is a good story of a classical scholar who bought a first-rate barometer. When it was delivered he puzzled himself greatly over the Vernier attached to the scale, and at length sent the instrument back, pointing out to the maker that there must be some mistake, since the scales of the Vernier and of the barometer itself did not agree. The world at large is similarly apt to admire Science from a distance, to read about it, and to buy some of its inventions, while remaining ignorant of their nature, and incapable of applying them. — *London Quarterly.*

NEW REMEDY FOR THE POTATO-BEETLE.—A Connecticut agriculturist writes: "It is believed that the best thing to repel this pest has finally been discovered. Having given the several reputed sure remedies a test, including Paris green, without finding any of them perfectly satisfactory, the idea suggested itself that the whole secret of success in getting rid of them lay in coating the potato plant with some substance which is offensive to the vermin. Having nearly half a barrel of air-slacked lime on hand, a trial of that was made by dusting over the whole plant just at sundown several thickly-infested plants being selected for trial. Upon the following morning those plants which were the subject of experiment had been wholly deserted, and the bugs could be seen sitting dejectedly on the neighboring weed and fence. Since, the same application has been made to several acres of potatoes which were badly infested, with equally satisfactory results, the bugs generally leaving the plants in a few hours, and many of them rolling off immediately they were touched by the lime. It has the advantage of being perfectly harmless to use, and is cheap and easily applied, while its pungency can not be endured by even a rascally potato grub."

— A green rose, blossoming monthly, and with leaves somewhat thicker than those of the ordinary rose, and fringed like the leaves of a carnation pink, was exhibited by a Broadway florist. The blossom is very fragrant.

DOMESTIC.

THE SPARE BED.

BY ONE WHO KNOWS.

Almost every family has a spare bed. It is generally in a spare room remote from the living room, where it would never feel the influence of any fire that would usually be kindled; or in a chamber, with no arrangement for warming it in winter. Into this spare room and spare bed company is put, frequently without the least thought that there is the slightest danger of injuring their guests. This is done with the kindest intentions, out of respect to their friends, who they wish might enjoy the best they have. Strong, healthy persons in the vigor of life might not experience any serious inconvenience. Not so the feeble or aged. Many under these circumstances have taken a cold that has brought on severe cough, sometimes congestion of the lungs, and even death itself.

It ought to be known that an unoccupied bed in a cold room in winter not only becomes cold but also gathers moisture and is dangerous to the most robust and healthy, but especially so to the aged and infirm. "None are more exposed to this danger than ministers who preach with two or more churches alternately. Sometimes they arrive at the house where they intend to spend the night, late in the day, thoroughly fatigued and chilled; or at the close of the labors of the Sabbath, are completely prostrate. In either case, the system requires rest and comfort, and is in a poor condition to be taxed with an extra effort, to keep up animal heat, in a cold, damp bed, and the result is a sleepless night, cold and hoarseness in the morning, protracted cough, congestion, or consumption and death.

These dangers are easily remedied. The least trouble perhaps, where it can be done, is to kindle a fire in the room, or an adjoining room and open the bed an hour or two before the bed is occupied; or it may be warmed by a hot soap stone, bottles of hot water, or the old fashioned "warming pan," or by applying heat in any way that a thoughtful woman can find out. Extra quilts and comforters will afford no protection. The cold and dampness and dangers are in the bed. — *Morning Star.*

— A Dutch journal points out a mistake which very frequently is made in removing grease spots with benzine or spirits of turpentine—the solvent is applied with a sponge or piece of rag. This tends inevitably to spread the grease. The stained portions of the garments should be laid flat between two sheets of soft blotting paper, and the upper sheet well soaked with benzine. In this way, if sufficient time be given, the whole of the fatty matter becomes not only dissolved but absorbed by the paper.

TO POLISH FURNITURE.—Use equal parts of boiled linseed oil and kerosene. Apply it with a flannel, and rub dry with another flannel. It will remove all white marks and scratches, and should be kept always ready for use. It gives the room a fresh appearance to rub all the furniture with this preparation. One feels well rewarded for the labor. If any white spots are so firmly fixed that the polish does not remove them, rub with turpentine, holding a hot shovel over them. — *Maine Farmer.*

SELECTING MEATS.—In selecting beef to roast, if it be for a small family, the rib is by far the best and most tender cut; have some of the bone removed; then make your butcher skewer the beef. The best beef-steak for broiling is porter-house. The best beef for *a la mode* is the round; have the bone removed, and trim off all the gristle. For corned beef, the round is also the best. For mutton roast, choose the shoulder, the saddle, or the loin and haunch. The leg should be boiled. Small rib chops are best for broiling; those cut out from the leg are generally tough. Mutton cutlets to bake are taken from the neck. For roast veal, the loin, breast or shoulder is good. Veal chops are best for frying; cutlets are more apt to be tough. In selecting beef, take that which has a loose grain, easily yielding to pressure, of a dark red color, smooth, with whitish fat; if the lean is purplish and the fat is yellow, it is poor beef. Grass-fed is the lightest, ox the best, and next the heifer. Perhaps the nicest mutton roast is a small leg, the bone taken out, and the cavity stuffed with forced meat. The best beef roast (for three) about two and a half or three pounds porter-house. Sirloin ranks next. A rump roast is very nice. Two to three pounds is plenty for three. In chops, I think that from the hind leg of mutton best, unless you can get a "meaty" sirloin. The same in pork; about one and a quarter to one and a half pounds is sufficient; beefsteak, about the same quantity. Porter-house is cheaper than sirloin, having less bone. Rump steak and round, if well pounded to make them tender, have the best flavor. — *Western Cattle-grower.*